

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

PERFORMANCE WORK STATEMENT

September 30, 2011

**ENGINEERING
AND
TECHNICAL SUPPORT
SERVICES**

MIKE MONORONEY AERONAUTICAL CENTER
LOGISTICS CENTER

TABLE OF CONTENTS

	Page
SECTION 1. GENERAL	
1.1 General Information.	2
1.2 Scope of Work.	2
1.3 Applicable Documents.	2
1.4 Performance Work Statement (PWS) Requirements	4
SECTION 2. AREAS OF EFFORT	
2.1 Management and Administration	10
2.2 System Support Services	10
2.3 Depot Support Services	15
2.4 Special Projects	24
SECTION 3. PERSONNEL REQUIREMENTS	
3.1 General Requirements.	25
3.2 Contract Manager General Requirements	26
3.3 Position Requirements and Qualifications	27
SECTION 4. FACILITIES, SUPPLIES AND EQUIPMENT	
4.1 Facilities	33
4.2 General Supplies and Equipment	33
4.3 Government Furnished Equipment (GFE).	34
SECTION 5. REPORTING	
5.1 Engineering Project List.	35
5.2 Cost Summary.	35
5.3 Time Utilization Report (TUR).	35
5.4 Ad hoc Reports.	35
5.5 Progress Review	35
SECTION 6. QUALITY	
6.1 Quality Control.	36

SECTION 1 – GENERAL

1.1 GENERAL INFORMATION:

The Federal Aviation Administration Logistics Center (FAALC), located at Mike Monroney Aeronautical Center (MMAC), provides logistics support to the Federal Aviation Administration (FAA) National Airspace System (NAS). FAALC supports a broad range of systems, consisting of thousands of individual pieces of equipment in the Facilities, Surveillance, Navigational Aids, and Weather Systems. In support of NAS systems and equipment, FAALC also provides configuration management, hardware and software documentation, modification(s), direct field, systems, and acquisition support.

This Performance Work Statement (PWS) outlines the requirements and conditions of contract support to be provided to FAALC offices located at MMAC. Typically the text of this document will note that contract support effort will be provided to FAALC.

1.2 SCOPE OF WORK:

1.2.1 This statement of requirements and conditions sets forth the requirements for Engineering Services and Technical Support. The services shall be provided to the Groups/Product Service Divisions within the FAALC. The FAALC Groups/Product Service Divisions provide technical support and supply support to the FAA National Airspace System (NAS) field facilities and other government agencies. The work to be performed is primarily in support of aircraft guidance systems, surveillance equipment, communications systems and technical data.

1.2.2 To accomplish the work effort specified in this PWS the contractor shall provide a wide variety of engineering, technical and administrative support personnel. The contractor shall perform the services identified in this PWS with minimal assistance from FAA personnel.

1.3 APPLICABLE DOCUMENTS:

The listed documents are references to be used as required when performing services under this PWS. Additional documents may be identified in the individual project assignments. Latest revision of documents will be used.

- a. Users Guide - Maintenance Technical Documentation System, for National Airspace System (NAS) Facilities and Equipment.
- b. Order 1320.1 D - FAA Directives System.
- c. FAA - iCMM - Integrated Capability Model for the Acquisition of Software Intensive Systems.

- d. Specification FAA-G-2100 - Electronic Equipment, General Requirements.
- e. FAA-STD-OIOC - Graphic Symbols for Digital Logic Diagrams.
- f. FAA-STD-013D - Quality Control Program Requirements.
- g. FAA-STD-018a - Computer Software Quality Program Requirements.
- h. FAA-D-2494b - Technical Instruction Book Manuscript: Electronic, Electrical, and Mechanical Equipment Requirements for Preparation of manuscript and Production of Books.
- i. FAA Order 3900.49 - Control of Hazardous Energy During Maintenance, servicing and Repair.
- j. FAA Order 1320.58 - Equipment and Facility Directives; Modification and Maintenance Technical Handbooks.
- k. Applicable manufacturer's instruction material.
- l. FAALC Division(s)/Group(s) Operating Procedures and work instructions.
- m. FAA-STD-005E
- n. FAA-STD-1343
- o. FAA Order 6032.2
- p. MIL-STD-804C
- q. FAA Order 1350.14A
- r. FAA Order 1350.1 5C
- s. Information System Group Operations and Procedures Plan
- t. Logistics Center ISO-9001:2000 Quality Procedure Manual
- u. FAA-STD-002F
- v. AC Form 6000-1 1-7
- w. AC Form 4700-14

1.4 PWS REQUIREMENTS:

1.4.1 General Requirements:

1.4.1.1 The Contractor shall provide the necessary resources, personnel, facilities, materials, and services to meet the requirements of this PWS. Each project assignment will define the scope, level of support, and deliverables required.

The Contractor shall provide the engineering, technician, computer software engineering, and engineering support deemed appropriate by FAALC to accomplish its logistics support mission. Work considered inherently governmental will not be assigned to the Contractor. Work shall include but not be limited to the following areas:

- a. Field Site Support including On-Site Maintenance
- b. Repair Work
- c. Design including Prototype and Modification Work
- d. Applications Work
- e. Testing including Prototypes
- f. Test Software Services
- g. Provide Sub-contractor Services
- h. Computer Aided Engineering Graphics (CAEG) Support
- i. Application Software and Database Support
- j. Electrician Services Related to Equipment Power
- k. Industrial System and Process Analysis and Design
- l. Engineering Support
- m. Electronics Technician Support

Work shall include but not be limited to the following types of equipment:

- a. Radar
- b. Automation and Computers
- c. Navigational Aids
- d. Communications
- e. Facility Environmental
- f. Visual Navigational Aids
- g. Electrical Power
- h. Weather
- i. Mechanical/Structural
- j. Automated Test Equipment

Contractor personnel will have access to similar documentation and information as the Government personnel in the FAALC, except for proprietary information. Work performed under this contract may involve access to information including specifications, engineering requirements, cost estimates and other sensitive data in advance of procurement actions. The Contractor shall not release or communicate any

such information or data, whether verbal or written, to any unauthorized persons. The Contractor shall sign any disclosure and procurement integrity statements, as may be required by the Government.

1.4.1.2 The various task projects shall include but not be limited to the following:

a. Perform engineering studies related to modification, design, monitoring, remote control, interfacing, and other requirements on equipment. -Deliverables may include an engineering report and cost estimate package for design, procurement, installation, testing, and evaluation of prototype systems.

b. Provide the technical expertise, materials, and fabrication effort to design, install, test, and evaluate modifications of equipment.

c. Provide hardware and software documentation, drawings, specifications, and cost estimates to implement proposed changes to equipment on a national level.

d. Provide technical support of the FAALC test bed facilities located at MMAC as required.

e. Provide for management and operation of the FAALC technical data library and software library including software configuration control and records.

f. Provide support for technical drafting and illustrating, editing, word processing, property management, telecommunications, data base management, and other administrative support.

g. Provide technical support to field organizations through telephone assistance or onsite assistance.

h. Provide equipment installation, and other maintenance related support for Headquarters National Airway System and AT0 Service Areas programs and projects requiring FAALC support.

i. Provide technical and logistical support for new systems acquisitions by participating in systems level integration, validation, certification of equipment and other acquisition support as required.

1.4.1.3 Work efforts shall involve an extensive interchange of information and ideas between the Contractor and the FAA. After project assignment, the Contractor assumes all responsibility for supervision and accomplishment of the contractor assigned projects.

1.4.1.4 The Contractor shall maintain individual project files consisting of background information, design notes, and other material for assigned projects. Project numbers shall be assigned by the FAALC.

1.4.1.5 All case files, program files, drawings, software, programs, diskettes, design data, artwork, etc. developed by the Contractor under this PWS, become the property of the Government. These items shall be delivered with the final product.

1.4.2 Documentation Requirement:

All documents submitted to the FAALC, related to project accomplishment, must be developed on electronic media. It shall be compatible with the requisite version Microsoft Word, Excel, Auto Cad, or other software, as required by the FAALC. If requested, the submittal shall be delivered to the FAA on electronic media or hard copy or both. This requirement may include management reports, progress reports, ad-hoc reports, technical drawings, vouchers and other accounting documents as determined by the FAALC.

1.4.3 Government Access to Contractor Facility:

For contract monitoring, Government personnel shall be allowed unannounced access to the Contractor's facilities during normal working hours.

1.4.4 Contractor Access to Government Agencies:

When working on FAALC assigned projects, contract personnel shall obtain permission from FAALC before visiting other Government agencies or facilities.

1.4.5 Contractor Access and Operation of FAA Facility Equipment:

The FAALC shall coordinate Contractor access to FAA facilities. Designated FAA site personnel have the authority to grant access, and operate the site equipment. The Contractor proposed requirements shall be provided at the time the request for the service is made. Use of FAA equipment may be outside normal duty hours.

1.4.6 Hours of Operation, travel, and overtime:

1.4.6.1 Contract personnel may be required to work outside the normal day shift (8:00 AM to 4:30 PM). When overtime/compensatory work is required, it must be approved in advance by the requiring organization and Contracting Officer Technical Representative (COTR). Flexible work schedules comparable to government schedules may be used when approved by the requiring organization.

1.4.6.2 Extensive contract employee travel may be required. A proposal showing a complete breakdown of all travel charges shall be provided and must be approved in advance by the requiring organization and COTR.

1.4.6.3 Observance of Legal Holidays and Administrative Leave: Generally, the contractor shall not be required to work nor will payment be made by the Government on holidays and administrative leave. The following is a list of Federal holidays and administrative leave:

- a. New Year's Day, January 1
- b. Martin Luther King's birthday, the third Monday in January
- c. President's day, the third Monday in February
- d. Memorial Day, the last Monday in May
- e. Independence Day, July 4
- f. Labor Day, the first Monday in September
- g. Columbus Day, the second Monday in October
- h. Veteran's Day, November 11
- i. Thanksgiving Day, the fourth Thursday in November
- j. Christmas Day, December 25
- k. Any other day designated by Federal statute, executive order, or presidential proclamation.
- l. Local determination relating to adverse weather conditions, national emergencies, energy conservation, MMAC/Organizational determinations, etc., may require the Center to close. During such periods of closure, contractor employees will not be allowed to work nor will the contractor be compensated.

For tasks being performed in foreign countries, local holidays will be observed as well as U.S. holidays. These days vary upon locations and are set by the local United States Embassy.

1.4.7 Tasks, Subtasks, and Projects:

1.4.7.1 A "Task" description will be general in description and broad in scope. A separate contract delivery order will be initiated for each task effort. A typical task description will cover the support for one or more systems i.e. En Route VORTAC ILS. Within the task description, a subtask(s) may be initiated for each major system support effort. As an example, A task will be written for Surveillance Support. Subtasks to support this task may include Enroute Radar Support, Terminal Radar Support, Beacon Radar Support, etc. As a minimum the Task Description will include: Background, Scope, Deliverables, and Milestones. Each Task Description will be signed by the Division (Group)/Assistant Manager/Manager and COTR.

1.4.7.2 Some Task efforts may be very extensive and require the work be broken into Subtasks. Typically the Subtask format will include: Background, Scope, Milestones, Deliverables, GFPIGFE, Special Terms and Conditions, Quality Control 1 Quality Assurance, Inspection and Acceptance, and Technical Documents. Each Subtask will be signed by the Team Manager and COTR.

1.4.7.3 All requests to establish new projects with the contractor shall be submitted by or through the FAALC Team, Division, and/or Group, Manager to the COTR by email or memo. The COTR will ensure the work is within the scope of this PWS, and forward the approved work request to the contract management. The contract management will assign projects to their employees and notify the requiring office to which employee the work is assigned. All deliverables completed by the contract employees will be

submitted to their contract management for review and acceptance. The contract management will forward approved deliverables to the requiring organization.

1.4.7.4 Each project or project phase shall be planned for completion by the Contractor under the following procedures:

- a. The Contractor shall advise when he/she is ready to start projects or project phases.
- b. An orientation meeting will be scheduled as required.
- c. The Contractor shall be provided the project background information.
- d. Technical documentation (instruction books, handbooks, etc.) will be identified, and provided for access in the FAALC technical library if available.
- e. The Contractor shall be advised of required scheduling, reporting, and deliverables.

1.4.8 Subcontracting:

The Contractor shall not enter into subcontract agreements without approval of the Contracting Officer. All subcontracts shall include the identity of the subcontractor, the extent of the work, the reason for subcontracting, and the extent of competition in selection of the subcontractor.

1.4.9 Voucher Requirements:

1.4.9.1 The Contractor shall certify that all direct charges are required in support of the contract. A copy of the receipt for all purchases shall be attached in support of voucher verification. The FAA subtask or project assignment number of individual customer organizations shall be recorded on the receipts attached to the vouchers. Vouchers will be submitted on a **bi-weekly** basis.

1.4.9.2 The Government shall not be obligated to reimburse the Contractor for any cost incurred before the approval to begin work on a task, subtask or project was given by the COTR or Contracting Officer.

1.4.9.3 The contractor shall provide the COTR a **monthly** premium hour report in accordance with CDRL 0001.

1.4.9.4 The contractor shall prepare and submit a **monthly** Contract Funds Status Report (CFSR) in accordance with CDRL 0002

1.4.10. Training:

1.4.10.1 Section 3.3 (POSITION REQUIREMENTS AND QUALIFICATIONS), of this PWS specifies the level of education, training, and experience necessary to perform the work assigned to the contractor under this PWS. These requirements are established as guidelines to be used in the selection of employees. The contractor shall provide employees that meet these requirements at the time of employment.

1.4.1 0.2 Contract employees will be required to attend the requisite in service training necessary to deliver the services identified in SECTION 2 -AREAS OF EFFORT, of this PWS. Employees must become proficient on baseline and upgrades to NAS systems and equipment, support documentation, and work processes. Proficiency training will be required for non-technical as well as the technical support positions defined in this PWS. The associated training is provided and/or coordinated by the MMAC FAA Academy.

1.4.10.3 All requests for contractor proficiency training will be in writing. Processing of requests for this training will be accomplished by following the FAALC Administrative Operating Procedures pertaining to contractor training.

1.4.10.4 When approved by the FAA, contract employees may or shall (depending on the type of training) attend Agency sponsored training considered beneficial to the Agency. Typically this would include sexual harassment, violence in the workplace, race relations, security, safety, environmental, etc.

1.4.1 1. Personnel and Supervision:

The contractor shall designate sufficient supervisory personnel to meet task outcomes. Contract technical Manager/supervisor will provide day-to-day supervision of contract personnel including, but not limited to, work monitoring, payroll records, leave, etc. At no time will contractor personnel be supervised by FAA personnel. Government assistance will be available to provide technical and policy guidance through the assigned COTR.

SECTION 2 - AREAS OF EFFORT

2.1. Management and Administration.

The Contractor shall assign a Technical Manager to this contract. The Technical Manager shall be responsible for the management and coordination of contract performance, and for providing technical guidance and supervision of all assigned Contractor personnel. The Technical Manager shall serve as the Contractor's central point of contact with the FAA COTR in all matters related to contract performance.

Should the Technical Manager be temporarily absent, the Contractor shall designate an alternate in writing to the COTR

2.2. Systems Support Services.

2.2.1. Systems Engineering.

The Contractor shall provide professional engineering services in support of the FAALC mission to assure that electronic, electrical, and mechanical systems and components meet FAA requirements for supply support, maintainability, serviceability, and reliability. These services may be provided to any requesting FAALC Product Division.

2.2.1 Technical Data for Requirements Development

The Contractor shall complete Government-issued Technical Data for Requirements Development (TDR) requests. The Contractor shall provide all documentation necessary for acquisition, fabrication or repair of equipment as required by the request. The Contractor shall comply with applicable Federal and FAA procurement organizations. The Contractor shall develop specifications and/or drawings, complete sole source forms, and provide all other technical or procurement data necessary to satisfy the requirements of the request. The Contractor shall develop, update and file drawing package lists. The Contractor shall support the TDR process as described in the TDR procedure. The Contractor shall prepare specifications required to complete the TDR in accordance with FAA-STD-005E. The Contractor shall prepare all necessary repair specifications to complete the TDR in accordance with FAA-STD-1343. The Contractor shall provide engineering technical assistance, including creating sketches supporting preparation of engineering drawings, as necessary to complete the TDR.

2.2.1.2. Work Order/Production Order

The Contractor shall complete Government-issued AC Form 6000-1 1-7, Work Order/Production Order requests, for engineering support of fabrication of items in the FAALC shops. The Contractor shall provide all documentation necessary for fabrication of these items. Documentation shall include all applicable drawings, specifications, material lists, and shop fabrication source. The Contractor shall develop specifications and/or drawings as necessary to satisfy the requirements of the work request.

2.2.1.3. Criteria Worksheet

The Contractor shall complete the Government issued Criteria Worksheet, AC Form 4700-14 requests. The Contractor shall perform investigative technical evaluations and studies necessary to complete the information requested. Services required to complete the request include research on reparability of equipment including repair sources, equipment reliability and obsolescence.

2.2.1.4. Request for Technical Assistance

The Contractor shall complete Government-issued Request for Technical Assistance requests. These requests may be submitted to the Contractor on the Technical Assistance form, Speed Memo form 1360-49, or any other form deemed appropriate by the Government. The Contractor shall perform the investigative technical evaluations that are required by the request. The request typically includes information such as National Stock Number (NSN), part numbers, descriptive data of item, current and past manufacturers and vendors, and other information. A request for engineering services that is not appropriately covered elsewhere in the PWS may be considered as a Request for Technical Assistance.

The typical intent of the request is to identify substitutions for parts and items that are no longer procurable. The Contractor shall follow the guidelines for part substitution and item substitution as described below

a. Part Substitution. Part substitution is defined as replacing a part with another part that has the same form, fit and function as the original part. The Contractor shall analyze the requirements and develop part substitutions for parts that are no longer obtainable from the original manufacturer or for other reasons including high cost. The Contractor shall identify the part substitution by part number and manufacturer.

b. Item Substitution. Item substitution is defined as replacing a part with a part that has the same function as the original part, but it is not physically interchangeable with the original part. The Contractor shall analyze the requirements and develop item substitutions in accordance with FAA Order 6032.2.

2.2.1.5. Evaluation of Equipment Modifications.

The Contractor shall review and complete Government-issued Electronic Equipment Modification/Plant Equipment Modification/System Support Modification (EEM/PEM/SSM) requests. The Contractor shall review the EEM/PEM/SSM contents to determine if FAALC assets are affected. The Contractor shall document if any assets are affected by the EEM/PEM/SSM so necessary action can be taken to modify the stock, plus update technical documentation including drawings.

The Contractor shall identify and provide to the FAALC technical library and engineering drafting services the updates required for all documentation affected by the modification. This documentation includes FAA drawings, manufacturer drawings, FAA drawing lists, Technical Instruction Books, Performance Data Records (PDR), test procedures and specifications. The Contractor shall review the revised documentation after the drafting changes have been completed to verify that they adhere to the EEM/PEM/SSM. The Contractor shall provide the FAALC technical library with a list of items and associated data affected by the modification so that the engineering documentation can be updated.

2.2.1.6. Miscellaneous Engineering Services

The Contractor shall provide miscellaneous electrical, electronic, mechanical, structural, civil and software engineering services. Work may include but shall not be limited to tasks such as the following:

- a. Perform in-depth engineering studies. I
- b. Perform documentation research, including support of Freedom of Information Act requests.
- c. Perform pre-acquisition qualification testing.
- d. Perform automated test equipment work.
- e. Develop or modify Performance Data Records
- f. Prepare acquisition, fabrication, repair, and testing specifications and, procedures not covered under a TDR task.
- g. Review newly acquired or existing documentation as required.
- h. Support FAALC engineering drafting services and technical library requirements.
- i. Perform follow-ups to on-going or completed engineering work.
- j. Provide engineering support to FAALC engineering and logistics management activities, and production shops.
- k. Provide on-site support of equipment, to include problem analysis, equipment repair, installation, modification and test.
- l. Create and maintain databases, spreadsheets, forms, and software applications as required.

2.2.2. Equipment Repair. Assembly and Preparation.

The Contractor shall perform troubleshooting, tear-down, repair, refurbishment, overhaul, assembly, testing, and installation services for designated equipment at the request of FAALC Product Divisions. Labor categories required to provide these services may include Electronics Technicians and Engineering Technicians as necessary to meet specific task requirements.

Task assignments will be made by the COTR in coordination with individual FAALC Group/Product Division task interpreters. Work will be managed and accomplished to meet all requirements specified in this SOW and the specific task assignment. The Contractor shall maintain and submit records of labor time and work activities as

specified in the task assignment. The Contractor shall coordinate production requirements and workflow scheduling with the FAALC Product Division task interpreter specified in the task assignment.

While not all inclusive, examples of tasks to be performed include:

- a. NAVAID antenna and component repair and overhaul.
- b. Rotary joint and drive motor troubleshooting and repair.
- c. Circuit board testing and repair
- d. Production and repair of electronic cables and wire harnesses.
- e. Performing equipment performance analyses, and information collection and reporting.
- f. Performing equipment adjustment, testing, and certification.
- g. Installation of equipment and components, and modifications.
- h. Installation and maintenance of NAS Radomes.
- i. Structural inspection of towers and tower components at heights in excess of 50 feet, but not to exceed 750 feet.
- j. Maintenance on the inside and outside of tower structures at heights in excess of 50 feet, but not to exceed 750 feet to include but not limited to installation of safety wire on tower guy wire pull-off shackles, installation and maintenance of tower structural components, installation, removal and maintenance on communication antennae, and installation, removal and maintenance on tower obstruction lighting systems.
- k. Moderate lifting and carrying (50 lbs.), straight pushing and pulling, reaching above shoulders, use of fingers and both hands required, walking and standing, repeated bending, climbing, crawling, kneeling (use of both legs and arms), operation of crane, truck, tractor, or motor vehicle, both eyes required with depth perception and ability to distinguish basic colors and shades of colors, hearing (aid permitted).

2.2.2.1. Electronic Technician Services.

The Contractor shall provide electronics technician services to the various FAALC Group/Product Divisions to help assure that electronic systems, subsystems, and components meet serviceability, reliability, and availability requirements. These services may include tasks such as electronic system/subsystem/component troubleshooting, repair, assembly, installation, calibration, and testing. The Contractor shall complete all tasks in accordance with applicable FAA and FAALC standards, orders, technical instructions, and quality procedures.

2.2.2.1 .1. System/Subsystem/Component/Troubleshooting, Repair, and Test

The Contractor shall troubleshoot, repair, and test electronic components so as to return unserviceable equipment to serviceable status. Items to be repaired may include electronic assemblies and components, electronic cables and wiring harnesses, and circuit cards. The repair process may include functions such as item

disassembly/assembly, circuit analysis, item repair, and parts replacement. After repair, the Contractor shall complete applicable calibration, testing, and certification processes. All process functions shall be performed and documented as specified in the technical documentation applicable to the equipment.

2.2.2.1.2. Equipment Assembly, Installation, and Test

The Contractor shall assemble cables, wiring harnesses, circuit cards, and other electronic assemblies and components based on FAALC-provided technical documentation. The Contractor may be required to install and to perform test and calibration functions for this equipment.

2.2.2.2. Engineering Technician Services.

The Contractor shall provide engineering technician services to the various FAALC Product Divisions to help assure that electrical, electronic, and mechanical equipment meets serviceability, reliability, and availability requirements. These services may include tasks such as: assembling and repairing equipment, components, test fixtures, and prototypes; performing equipment performance analyses and data collection and reporting; and installing equipment and modifications. The Contractor shall complete all tasks in accordance with applicable FAA and FAALC standards, orders, technical instructions, and quality procedures.

2.2.2.2.1. Equipment Assembly and Repair.

The Contractor shall assemble and repair electrical, electronic, and mechanical systems, subsystems, and components. Equipment assembly processes may require a combination of design, fabrication, and/or construction functions for items such as power and signal cables, circuit boards, electrical and mechanical components, test fixtures, and engineering prototypes. Equipment repair processes may include functions such as performance analysis, equipment disassembly/assembly, troubleshooting and correction of electrical, electronic, or mechanical malfunctions, parts replacement, painting and composite structures. The Contractor shall complete applicable adjustment, testing, and certification processes on all items assembled or repaired. All process functions shall be performed and documented as specified in the technical documentation applicable to the system/subsystem/component.

2.2.2.2.2. Equipment Performance Analyses and Data Collection.

The Contractor shall perform equipment and component performance analyses to determine operating characteristics and parameters, to aid in fault isolation and identification, and to verify equipment functions under variable conditions. The Contractor shall collect and record appropriate engineering data to document results of the analyses. The Contractor shall also extract, produce, compile, and present a variety of systems data and logistics support information obtained from various sources.

2.2.2.2.3. Equipment Installation.

The Contractor shall install electrical, electronic, and mechanical systems, subsystems, components, test fixtures, modifications and engineering prototypes. The Contractor may be required to perform adjustment, test, and certification functions for this equipment.

2.2.2.3. Electrician Services.

The Contractor shall provide electrical services to the various FAALC Product Divisions to help assure that electrical power requirements for equipment are met. These services may include tasks such as assisting the FAALC in developing electrical power plans for equipment, installing electrical wiring in equipment shelters, installing equipment electrical power system components and connecting these components with commercial and secondary power sources, and troubleshooting and repairing malfunctioning electrical power equipment and circuits. The Contractor shall complete all tasks in accordance with applicable FAA and FAALC plans, standards, orders, technical instructions, and procedures, and with the National Electric Code.

2.2.2.3.1. Electrical Power Requirements.

The Contractor shall analyze equipment electrical power requirements and assist the FAALC in developing and reviewing electrical power system plans to include electrical circuits, and component, material, installation, operation, and safety requirements.

2.2.2.3.2. Electrical Power Installation and Connection.

The Contractor shall install electrical power materials and equipment, including items such as conduit, wiring, cables, outlets, breaker and distribution panels, meters, switches, backup power supplies, and transformers, and shall connect this equipment with external primary and/or secondary electrical power sources, and with receiving equipment. The Contractor shall install appropriate facility and equipment grounding circuits. All work, electrical power materials and equipment, and resulting electrical systems and circuits shall comply with the National Electric Code and with FAALC approved plans.

2.2.2.3.3. Repair of Electrical Circuits and Equipment.

The Contractor shall troubleshoot and correct malfunctioning electrical circuits and equipment. This process may include replacement/repair of defective items such as circuit breakers, wiring, fuses, switches, or other electrical components, and also analysis and correction of problems caused by circuit loads, grounding faults, and electrical system design.

2.3 Depot Support Services

2.3.1 Industrial Engineering Services.

The Contractor shall provide industrial engineering services to the FAALC to help assure that effective and cost-efficient production and management control systems and processes are developed and maintained to improve productivity and reduce costs. These services may include tasks related to the analysis, planning, design, and improvement of the integrated systems of employees, processes, organizational structures, facilities, materials, and equipment used by the FAALC.

Task assignments will be made by the COTR in coordination with individual FAALC task interpreters. Work will be managed and accomplished to meet all requirements specified in this SOW and the specific task assignment. The Contractor shall maintain and submit records of labor time and work activities as specified in the task assignment. The Contractor shall coordinate production requirements and workflow scheduling with the FAALC task interpreter specified in the task assignment.

2.3.2. Engineering Drafting Services.

The Contractor shall provide complete drafting services in support of the FAALC. This shall include operation and maintenance of the drafting file system, reproduction of drawings, preparation of engineering drawings, electronic artwork and electronic media, including disks, in accordance with STD-002F. The Contractor Technical Manager shall advise the COTR, when consumable supplies should be ordered for the equipment the Contractor manages. Such supplies shall include items such as ink-toner, ink-cartridges, paper, and rolled paper for the GOV furnished copiers, plotters, printers and scanners. The Contractor work shall be provided as described in the SOW. All routine work shall be completed in the times specified in the following paragraphs. Priority work shall be completed in the times as directed by the COTR.

2.3.2.1. Maintain FAALC Engineering Drawings

The Contractor shall maintain approximately 650,000 FAA engineering drawings stored and filed on the FAALC CAEG servers, in such a manner to allow for rapid and efficient access. The Contractor shall assist authorized users with appropriate and authorized access the CAEG servers. Authorized users and access is authorized by the COTR.

The Contractor shall keep all FAA Engineering drawings, located in the FAALC technical library and Warehouse secure, in accordance with the COTR instructions.

The Contractor shall, by **September 30** of each fiscal year, prepare a report to the COTR indicating storage requirements for the next fiscal year.

2.3.2.2. Annual Inventory

The Contractor shall make inventories of all drawing files and provide the COTR with an **annual inventory report**. The Contractor shall establish and maintain computer indices of all FAALC engineering drawings. This shall include all existing and any future drawings. The Contractor shall utilize and input data on drawings to an integrated drawing management computer documentation provided by the FAA. The database shall be available to FAALC personnel without having to go through the Contractor.

2.3.2.3. Retrieve and Re-file Drawings/Artwork

The Contractor shall retrieve and then re-file engineering drawings/artwork as requested by the authorized user, as defined by the COTR. Work shall be done in accordance with FAALC Work Instruction W1460-9-000145 within 5 working days of request. This shall include the pulling out and re-filing of a drawing/artwork for purposes of copying or giving the original to the requester. It shall include logging in/out if originals are given to the requester. It shall include filing drawings pulled by Contractor or Government personnel.

2.3.2.4. Reproduce Engineering Drawings on Hard Copies

The Contractor shall reproduce copies of all engineering drawings on hard copies as requested by the authorized user within 10 working days. Priority requests shall of course be done sooner particularly if the copy request is small in nature.

2.3.2.5. Prepare Engineering Drawings

The Contractor shall prepare to scale complete and detailed drawings, schematic diagrams, instruction drawings and detailed master patterns from written instructions, preliminary sketches, samples and prototypes within 20 working days of request. These drawings shall be accomplished utilizing GOV furnished AutoCAD or MicroStation CAEG application software. Drawings may be accomplished on original hard copies depending on the requirements of the request. Drawings shall include but not be limited to the following types: electronic, electrical, mechanical and structural fabrication drawings; schematics; installation, procurement and modification instruction drawings; charts, graphs and space layouts. All engineering drawings shall be in accordance with FAASTD-002F, Engineering Drawing Preparation. Drawings shall vary in size and complexity. The sizes for engineering drawings that the Contractor shall prepare are typically:

- Size A - 8 1/2 X11 inches
- Size B - 11 x 17 inches
- Size C - 17 x 22 inches
- Size D - 22 x 34 inches
- Size E - 34 x 44 inches

The range of complexity of engineering drawings that the Contractor shall prepare is illustrated by actual drawings in the FAALC technical library, which the Contractor may inspect. They range from very simple part fabrication drawings that would take less than one day to prepare, to extremely detailed schematics and assemblies in accordance with STD-002F.

2.3.2.6. Revise Engineering Drawings

The Government will submit marked up drawings for revision by the Contractor. The Government may issue a drawing modification list that will require drawings to be revised as per the modification. The Contractor shall retrieve the required drawings and prepare a reproducible drawing in accordance with STD-002F with the required revisions within 20 working days of request. The COTR may establish other completion times based on the priority of the request. Revised drawings shall be accomplished utilizing GOV furnished AutoCAD or MicroStation CAEG application software. Revised drawings may be accomplished on original hard copies depending on the requirements of the request.

2.3.2.7. Miscellaneous Drafting Services

The Contractor shall provide miscellaneous drafting services. Work may include but shall not be limited to the following:

- a. Support of the FAA CAEG drawing systems or any electronic drawing system used by the FAA. This could include the loading, storage, copying, transfer and indexing of all FAA engineering drawings including those available only on hard copy.
- b. Support to Contractor technical library services such as the reconstruction of the library's technical instruction manuals when copies are requested.
- c. Support to Contractor engineering services.
- d. Follow-ups to ongoing or completed work.
- e. Tours of the drafting area.
- f. Prepare or revise part fabrication drawings for use either on the FAALC shops automatic fabrication machinery or for fabrication by hand. Assist the FAALC shops in their drafting efforts.
- g. Review drawing packages and indexes for completeness in accordance with STD-002F
- h. Automatic test equipment work including preparation of schematics using Government supplied or designated software-drawing programs such as Schema.

2.3.3.1 Maintain FAALC Technical Library

The Contractor shall arrange items in the FAALC technical library and storage areas to assure easy retrieval by users. The contractor shall remove all obsolete documents

identified by users and after approval of the COTR. The Contractor Technical Manager shall advise the COTR when more supplies should be ordered for the equipment the Contractor manages. The contractor shall, by **September 30th** of each fiscal year, prepare a report to the COTR indicating storage space requirements for the next fiscal year.

2.3.3.2. Maintain Computer Data Bases

The Contractor shall maintain a computer database on all technical instruction manuals. This database shall contain the following information: FA type number, equipment name, model, manufacturer and remarks. All identifying numbers, such as Technical Instruction (TI) numbers on books, shall be placed in the remark section. The Government will provide the software and hardware for this database.

The Contractor shall also maintain computer databases on other items to satisfy the requirements of the SOW. This includes items such as the EEMIPEMISSM, System Support Modification (SSM), System Documentation Release (SDR), System Technical Release (STR) modification data for the Engineering documentation, FAAIFAALC specification database and data required for status reports to the COTR.

The Contractor shall retrieve information from the computer databases upon request of any authorized users. The information shall be provided to the requester on a hard copy computer printout within one working day. The Contractor shall give FAALC personnel direct access to the databases.

2.3.3.3. Maintain FAA Specifications

The Contractor shall maintain a collection of up-to-date FAA specifications and all FAALC specifications. The Contractor shall furnish copies upon request to authorized users within one working day, if the specification is located on line. The Contractor shall maintain, update and retrieve information from the computer database of FAA and FAALC specifications.

2.3.3.4. Maintain Electronic Equipment Modifications

Maintain Electronic Equipment Modifications, Plant Equipment Modifications, System Support Modification, System Documentation Release and System Technical Release.

The Contractor shall maintain Electronic Equipment Modifications (EEM), Plant Equipment Modifications (PEM), System Support Modification (SSM), System Documentation Release (SDR) and System Technical Release (STR) including changes to those documents. The Contractor shall make internal FAALC distribution of the EEM/PEM/SSM/SDR/STR, update technical instruction books and file the EEM/PEM/SSM/SDR/STR in the appropriate binder. All work under this section shall be completed within 5 working days. The Contractor shall distribute one copy of the EEM/PEM/SSM/SDR/STR to the appropriate FAALC Product Division.

The Contractor shall update the computerized modification index with the new EEM/PEM/SSM/SDR/STR. The Contractor shall also enter the technical modification data provided by engineering services in the Engineering database. The Contractor shall file appropriate pages of the EEM/PEM/SSM/SDR/STR in the corresponding technical manual as directed in the EEM/PEM/SSM/SDR/STR. The Contractor shall place one copy of each EEM/PEM/SSM/SDR/STR in the appropriate Airway Facility Procedure (AFP) binder located in the FAALC technical library.

2.3.3.5. Maintain National Stock Number Files

The Contractor shall establish and maintain complete National Stock Number (NSN) files in NSN sequence for documentation applicable to a particular NSN. The Contractor shall transfer the existing NSN hard copy files to the electronic filing system using the document scanner.

2.3.3.6. Maintain FAA Equipment Modification Publications

The Contractor is responsible for updating and scanning hard copy files using the document scanner for publishing on-line. When requested, the Contractor is responsible for furnishing a hard copy of manual.

2.3.3.7. Maintain Miscellaneous Government & Commercial Documents

The Contractor shall establish and maintain files for all other Government and commercial documents not otherwise identified in the SOW, as directed by the COTR. The Contractor shall obtain documents that it does not have in the library when a customer asks for such an unavailable document, as directed by the COTR. The Contractor shall file documents within 5 working days of receipt.

2.3.3.8. Operate Copy Machine

The Contractor shall operate the technical library copy machine. The Contractor shall furnish reproduced copies of technical library documentation upon request from authorized users within one working day. Large items such as Technical Instruction manuals may require more than one day to copy.

2.3.3.9. Research Documentation for FAALC Technical Library Users

The Contractor shall research the documentation within the FAALC technical library for information upon request of authorized users. Requests received for modification, test procedures, substitutions, specifications, Freedom of Information Act requests or any information concerning any equipment, shall be researched by the Contractor to determine if information is in the FAALC technical library. Available information shall be furnished to authorized users within one working day of request.

2.3.3.10. Acquire Publications

The Contractor shall acquire books and other material from LIS as directed by the COTR. Contractor documentation shall be completed within 5 working days of request. The Contractor shall use on-line requisitioning using the Logistic Inventory System (LIS) to requisition material from FAALC stock. The Contractor shall identify the NSN of the publication and follow the instructions as identified in the FAA LIS on-line requisitioning training manual to accomplish this. The COTR will furnish the required supply support code to be used by the Contractor for FAA LIS on-line requisitioning. The Contractor shall prepare a Publications Request, FAA Form 1720-11 to requisition material from the Printing and Distribution Division, AMI-7008. The Contractor shall prepare a (TODO)/Technical Order Publications Requirement using ATOMS to requisition material from the Air Force. The Contractor shall prepare NAS Document Request, FAA Form 1750-3 to requisition material from the Technical Center Library.

2.3.3.11. Miscellaneous Technical Library Services

The Contractor shall provide miscellaneous technical library services. Work may include but shall not be limited to items such as the following:

- a. Operate technical library facsimile machine and distribute incoming facsimiles.
- b. Assisting Contractor engineering services and Contractor drafting services.

2.3.3.12. Management and Program Analysis.

The Contractor shall provide management and program analysis services to the FAALC. These services shall include planning, scheduling, conducting, and reporting analyses of management, administrative, and logistics programs and procedures to determine resource requirements and utilization, work flow processes, and the efficiency, effectiveness, and productivity of functional operations. Tasks include, but are not limited to:

- a. Review new and revised regulations, publications, directives, and logistical plans to help ensure correct interpretation, impact identification, and compliance within the FAALC. Coordinate all new and revised operating procedures with affected activities, and monitor their incorporation into applicable FAALC handbooks and orders.
- b. Develop and/or revise orders, directives, procedures, correspondence, reports, presentations, and work-flow processes.
- c. Assist in the development and administration of training programs. Develop and monitor training budgets, administer training quota requests and training assignments, and monitor training course schedule and completion.

- d. Maintain and update automated systems for tracking obligation and expenditure of funds. Monitor and report fund obligations, expenditures, and budget status.
- e. Develop and maintain reports on personnel statistics such as manpower programs, personnel ceiling, promotions, average and high-grade level, and career development programs. Plan, develop, and administer employee communications processes to inform employees of personnel programs.
- f. Provide guidance on travel regulations and ensure travel practices meet FAALC criteria and government requirements.
- g. Complete personnel and administrative actions as directed to include manpower resource allocation, recruitment, transfer, and temporary assignment.
- h. Analyze and report on the effectiveness, efficiency, and productivity of administrative and technical programs such as data systems, information management, personnel, budget, etc. as related to their support of substantive operating programs (e.g., logistics support, staffing standards, organizational structure, etc.).
- i. Develop improved methods for identifying resource requirements, measuring manpower and budget utilization, implementing improved work procedures, and reporting improvements in operations.
- j. Analyze existing and proposed changes to organizational structures, charts, and mission and functional statements, to assist in eliminating functional overlap or duplication among FAALC programs.
- k. Conduct and report results of employee interviews and audits of programs and supply records to determine compliance with FAALC policies and procedures.
- l. Analyze program and administrative functions, and produce reports identifying variances between actual and budgeted cost, schedule, and performance factors.
- m. Develop, track, and administer program and administrative activity schedules and budgets.
- n. Develop metrics to measure the cost, schedule, and performance factors associated with management, administrative, and program functions.

2.3.3.13. Logistics Management

As tasked, the Contractor shall provide logistics management services to the FAALC. These services shall include the planning, scheduling, monitoring, estimating and coordinating of assigned programs. Task include, but are not limited to:

- a. Prepare and analyze logistics planning documents, schedules, reports, budgets and workload data.
- b. Develop initial provisioning and supply support criteria and analyze the effectiveness and efficiency of the criteria.
- c. Develop and coordinate plans and objectives for inventory management, field support, F&E and NSS budget, storage and transportation and repair services.
- d. Determine appropriate stock and repair levels using analytical tools such as Repair Level Analysis and Spares Quantification.
- e. Review programs for adequacy and efficiency of supply support provided to FAALC customers.
- f. Develop plans for supporting new systems and for providing continuing support for obsolete and/or nonprocurable systems and equipment.
- g. Analyze and evaluate program elements, supply support requirements, logistics processes and maintenance concepts in relation to available funds, budget requirements, FAALC objectives and regulatory requirements.
- h. Determine logistics support costs and prepare and monitor support budgets.
- i. Coordinate supply management projects with logistics functions including systems engineering, financial management, acquisition, storage and transportation, inventory management, equipment specialists and cataloging.
- j. Analyze programs, costs, current and forecast budgets, operational reports and schedules, production and procurement lead times and report results and conclusions.
- k. Develop plans for establishing dedicated repair programs for new equipment/systems
- l. Coordinate with inventory managers and equipment specialists to provide non-catalog support for old and new systems and provide inventory management services as required.
- m. Develop, analyze and report repair sales and gross margin versus cost, average repair cost, logistics process and operations cost, cost allocation by activity and logistics costs to support pricing determinations.

2.3.3.14. Facilities Support Technician Services.

The Contractor shall provide facilities support services to the various FAALC Product Divisions and Groups. These services may include tasks such as: assembling and repairing office and shop furniture and fixtures; processing and inspecting work orders and telecom efforts; maintaining space layouts and employee locations.

Tasks may include, but are not limited to:

- a. Supports the operational floor and office areas in assembling and repairing of workbenches, storage racks, shop fixtures, and office furniture.
- b. Assists in the coordination of shop and office moves.
- c. Assists in coordination of various project activities involving space planning, minor rearrangements, and major facility renovations. Coordinates as needed with contractors and other offices during these activities.
- d. Assists AML Space Coordinator in maintaining and updating AML space layouts and employee locations.
- e. Assists AML Space Coordinator in discussions on space allocation issues.
- f. Assists in processing Facilities Work Orders in a timely, cost-effective manner.
- g. Inspects, tracks status, and verifies progress on facility work orders and telecom work requests.
- h. Manages the AML phone instruments, network cable inventory, and the monitoring of the telecom budget/expenditures. Inspects, identifies, and document telecom positions.
- i. Coordinates telecom efforts during AML space facility rearrangement projects and personnel moves.

2.3.3.15. Administrative/Secretarial Support.

The Contractor shall be responsible for providing administrative support as needed in various locations at the division and branch level. Position descriptions will be prepared for these positions. Personnel will perform the duties related to:

- a. Telephone communications, space management, and property inventory management.
- b. Ordering, tracking, receiving and shipping of office supplies and equipment.
- c. Personnel, safety, environmental and training related activities.
- d. Database and records management to include data entry, updating, tracking, problem resolution, and preparation of reports.
- e. Secretarial support.
- f. Other administrative support as required.

Task assignments will be made by the COTR in coordination with individual FAALC task interpreters. Work will be managed and accomplished to meet all requirements specified in this SOW and the specific task assignment. The Contractor shall maintain

and submit records of labor time and work activities as specified in the task assignment. The Contractor shall coordinate specific task requirements and workflow scheduling with the FAALC task interpreter specified in the task assignment.

2.4. Special Projects.

A Special Project is defined as any work supporting the FAALC mission that meets the following criteria and is within the scope of the contract:

- a. Limited duration period of performance, or is a one-time requirement.
- b. Requires expertise, products, or capabilities either not available from the Contractor's existing assigned resources, or that would unacceptably degrade production schedules if provided from the Contractor's existing assigned resources.

A Special Project could include (but is not limited to) FAALC work such as systems analysis, design, test, evaluation, installation, repair, software development, field engineering, prototype production, limited production, equipment/materials acquisition, or development/provision of training programs.

Upon Government determination that proposed work is a Special Project, the Contractor shall submit an appropriately detailed project plan and a proposed budget to complete the work. The project plan shall include the planned method of accomplishment and schedule. Work accomplishment plans may include Contractor use of temporary employees, consultants, or subcontractors. If approved by the Government, the Contractor shall be tasked to perform the work as specified.

SECTION 3 - PERSONNEL REQUIREMENTS

3.1 GENERAL REQUIREMENTS:

3.1.1 The Contractor shall be responsible for employing qualified personnel to perform the duties defined in this PWS. The Contractor shall only assign personnel to this contract who have the professional experience and other qualifications necessary to perform the tasks required in this PWS. The Contractor must have the personnel, organization, and administrative control necessary to ensure that each project is completed satisfactorily. If questions arise that the Contractor is using other than qualified personnel, the Contractor shall provide proof that personnel do possess proper qualifications and experience.

3.1.2. After award of contract, the Contractor shall submit a resume for each person to be assigned to this contract. The requiring government organization will review resumes for purposes of determining that applicants meet the requisite qualifications of paragraph 3.3 **POSITION REQUIREMENTS AND QUALIFICATIONS** of the PWS. Exceptions for submission may be made in the case of incumbent employees for which a resume has been provided and on file with the requiring organization.

3.1.3. Exceptions or waiver to requisite journeyman level qualifications are covered under Section 3.3 of this PWS. FAALC shall review resumes and notify the Contractor of their determination of waiver based on the qualifications of the applicant.

3.1.4 The number and type of personnel positions may be amended due to normal employee attrition or a change in FAALC assigned workload. The Contractor shall submit resumes to the FAA for review of qualifications prior to filling vacant positions.

3.1.5. Government Review of Proposed Contractor Personnel.

a. New Personnel. The Contractor shall provide the Government with a resume and any applicable professional qualification documents (i.e., diplomas, licenses, training certificates, etc.) for personnel proposed for assignment to this contract. The Government shall review submitted documents to ensure that personnel qualifications meet contract requirements. The Government may request additional documentation or clarifications substantiating individual qualifications if deemed necessary. Government approval of individual qualifications is required prior to assignment of that individual to the contract.

b. Incumbent Personnel. Contractor personnel who have been providing services to the FAALC under an existing predecessor contract are automatically deemed to be qualified to continue providing the same type services in the same labor category as assigned. The Contractor shall submit the name and labor category of such incumbent personnel proposed for assignment to this contract of satisfactory performance. The Government shall approve or disapprove assignment of these incumbent personnel to the new contract.

3.1.6. Waiver of Experience and Qualification Requirements.

The Contractor may request the Government to waive mandatory experience and/or other qualification requirements for personnel proposed for assignment to this contract. Waiver requests shall identify the requirement(s) for which the waiver is being requested and provide an explanation of how the requirement(s) have been satisfied by other means. At its sole discretion, the Government may approve or disapprove waiver requests.

3.1.7. Removal of Contractor Personnel.

The Government may withdraw a previously issued approval of assignment of Contractor personnel to this contract and direct that the individual be removed from the contract based on the individual not meeting Government expectations or requirements for personal, professional, or performance standards.

3.1.8. Changes to Staffing Levels.

The Contracting Officer may increase or decrease the numbers of assigned Contractor employees in any particular contract labor category, or assigned to the contract as a whole. Such changes may be caused by funding availability, changes in workload levels, or changes in workload technical requirements.

3.1.9. Training.

When advantageous to the Government, training may be provided by the Government at no cost to the contractor or paid for by the contractor and reimbursed by the Government. Reimbursement of Government-paid training costs will be required if the contractor employee does not remain in the position for one year from the date of training, unless the Government waives reimbursement.

3.2 CONTRACT MANAGER GENERAL REQUIREMENTS:

3.2.1 The Contractor shall designate a Contract Manager for the contract. The Manager shall be responsible for the management and coordination of the contract. The Contract Manager shall act as the central point of contact with the Government. The Manager shall have the authority to represent and commit the Contractor in dealing with the Government.

3.2.2 The Contract Manager shall be physically located at an established Oklahoma City contract facility or an on-site MMAC facility. The manager may work an alternate work schedule with approval from the FAA.

3.2.3 Should the Contract Manager be temporarily absent, an individual shall be designated in writing to act as alternate. The CO and COTR shall be notified of the name of the individual to act as alternate.

3.3 Position Requirements and Qualifications.

It is anticipated that only the following labor categories will be necessary to perform the work required.

3.3.1. Technical Manager.

a. Experience At least ten years experience in managing an electronics engineering activity and supervising a technical staff including engineers, technicians, and engineering support personnel is required. At least five years personal experience in providing direct engineering support for equipment and systems is required. At least two years personal experience in electronic systems design is required. Experience in managing and providing engineering and technical support for NAS systems is highly desired.

b. Knowledge. Specialized knowledge of FAA systems, equipment, procedures, and operations is highly desired. Familiarity with government contract administration rules and procedures is required.

c. Education. A Bachelor of Science degree in Electronic, Software or Electrical Engineering is required.

3.3.2. Electrical/Electronics Engineer.

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Electrical/Electronics Engineer I	2
Electrical/Electronics Engineer II	6

a. Experience (All levels). Experience shall include performing analyses of electronic and/or electrical components and systems, developing specifications, designing modifications and revisions, identifying part and item substitutions, and producing engineering technical documentation.

b. Knowledge (All levels). Specialized knowledge of FAA systems, equipment, procedures, and operations is highly desired. Knowledge of NAS systems computer hardware and firmware/software to include embedded applications is highly desired.

c. Education (All levels). A Bachelor of Science degree in Electronic or Electrical Engineering is required.

3.3.3. Engineering Technician.

This labor category includes the following levels, and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Engineering Technician I	2
Engineering Technician II	3
Engineering Technician III	4
Engineering Technician IV	5
Engineering Technician V	6

a. Experience (All levels). Practical experience in an engineering support position is required. This experience must include assisting in developing, reviewing, and updating engineering documentation and processes, and in troubleshooting, repairing, assembling, testing, and installing electrical, electronic, and mechanical systems and equipment.

b. Knowledge (All levels). Specialized knowledge of FAA systems, equipment, procedures, and operations is highly desired. Knowledge is required in: assisting in producing, reviewing, revising, and interpreting technical engineering documents; assisting in designing, fabricating, assembling, troubleshooting, and repairing electrical, electronic, and mechanical systems, subsystems, components, test fixtures, and prototypes; developing and performing equipment and component adjustment, test, and certification processes; and in installing equipment and modifications.

c. Education (All levels). Completion of formal technical training courses is required. For level 2 and higher, an associate degree in electrical or engineering technology is required.

3.3.4. Electronics Technician.

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Electronics Technician I	2
Electronics Technician II	3
Electronics Technician III	4
Electronics Technician IV	5
Electronics Technician V	6

a. Experience (All levels). Practical experience in an electronics technician position is required. This experience must include assembling, troubleshooting, repairing, calibrating, and testing electronic systems and equipment.

b. Knowledge (All levels). Specialized knowledge of FAA systems, equipment, procedures, and operations is highly desired. Knowledge is required in: interpreting

technical engineering documents; assembling, troubleshooting and repairing electronic systems, subsystems, and components to include wiring, cables and circuit cards; and in calibrating and testing electronic systems, subsystems, and components.

c. Education (All levels). An associate degree in electrical or engineering technology, or completion of equivalent formal technical training courses, is required.

3.3.5. Drafter.

This labor category includes the following level and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Drafter III	5

a. Experience. Five years engineering drafting experience is required. At least one-year experience in using an automated drafting system utilizing CAD software is required. Experience with the AutoCAD and Bentley MicroStation CAD software is highly desired.

b. Knowledge. Familiarity with FAA systems, equipment, procedures, and operations is highly desired. Knowledge of the AutoCAD or MicroStation computer drafting systems is highly desired. Knowledge of manual technical drafting techniques is required.

c. Education. An associate degree in computer-aided drafting (CAD/CAM) is highly desired.

3.3.6. Technical Librarian.

This labor category includes the following level and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Technical Librarian	2

a. Experience. Practical experience as a librarian is required. Experience shall include document control, check-/check-out, filing, posting revisions and modifications, copying and distribution, and maintaining computerized document inventory databases.

b. Knowledge. Specialized knowledge of FAA document types and documentation maintenance procedures, and name recognition of FAA equipment and systems, is highly desired.

c. Education. A high school diploma or equivalent is required. An associate degree in library science is highly desired.

3.3.7 Mechanical Engineer

This labor category includes the following levels and associated required years of experience:

Category/Level	Years of Experience,
Mechanical Engineer I	2
Mechanical Engineer II	6

- a. Experience (All Levels). Experience shall include performing analyses of mechanical components and systems, developing specifications, designing modifications and revisions, identifying mechanical components materials, and producing engineering technical documentation.
- b. Knowledge (All Levels). Specialized knowledge of FAA systems, equipment, procedures, and production is highly desired. Knowledge of machine shop tooling procedures and mechanical item production techniques is highly desired.
- c. Education (All Levels). A Bachelor of Science degree in Mechanical Engineering is required.

3.3.8 Civil/Structural Engineer.

This labor category includes the following levels and associated required years of experience:

Category/Level	Years of Experience,
Civil/Structural Engineer I	2
Civil/Structural Engineer II	6

- a. Experience (All Levels). Experience shall include performing analyses of buildings/facilities, foundations and structural components and systems, developing specifications, designing modifications and revisions and producing engineering technical documentation.
- b. Knowledge (All Levels). Specialized knowledge of FAA systems, equipment, procedures, production and facilities is highly desired.
- c. Education (All Levels). A Bachelor of Science degree in Civil or Structural Engineering is required.

3.3.9. Management and Program Analyst.

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Program Analyst I	2

Program Analyst II	4
Program Analyst III	6

- a. Experience (All levels). Experience shall include scheduling, performing, reporting, analyzing, and documenting activities associated with ensuring the productivity and efficiency of programs, or of administrative or management operations. This includes: performing evaluations of actual vs. budgeted cost, schedule, and performance data; identifying manpower resource requirements; developing assessment metrics; compiling actual cost, schedule, and performance data; developing variance information; producing cost, schedule, and performance budget forecasts; developing and managing administrative and management activity schedules and budgets; and producing administrative and management reports, presentations, and correspondence.
- b. Knowledge (All levels). Specialized knowledge of FAA systems, equipment, procedures, operations, and budgeting is highly desired. Knowledge of budgeting and accounting principles is required. Knowledge of analytical and evaluative methods and techniques for schedule and budget performance, and for assessing program, administrative, and management effectiveness is required.
- c. Education (All levels). A high school diploma or equivalent is required. A Bachelors of Arts degree in Business Administration, or an Associates degree in Accounting or Business, is highly desired.

3.3.10. Logistics Management Specialist

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Logistics Management Specialist I	2
Logistics Management Specialist II	4
Logistics Management Specialist III	6

- a. Experience (All levels). Experience shall include analyzing, planning and coordinating logistics management programs and functional processes. This includes: performing analyses of logistics processes to identify money, manpower, facilities, material, schedule and service costs and requirements; correlating logistics support costs and requirements with program plans and budgets; producing performance metrics, reports and statistical data reflecting logistics costs, allocations and variances; performing inventory management functions; and assisting in developing logistics management plans and program budgets.
- b. Knowledge (All levels). Specialized knowledge of FAA systems, equipment, procedures, logistics operations, financial systems and budget processes is highly desired. Knowledge of cost accounting principles is required.

Knowledge of analytical and evaluative methods and techniques for assessing logistics management programs, functional processes and costs is required.

- c. Education (All levels). A high school diploma is required. A Bachelors degree in Accounting, Business Administration or Engineering is highly desired

3.3.11. Facilities Support Technician

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Facilities Support Technician I	2

- a. Experience (All levels). Experience shall include assembling and repairing office and shop furniture and fixtures; processing and inspecting work orders; and maintaining space layouts, spreadsheets, and databases
- b. Knowledge (All levels). Knowledge of floor layout plans and specifications is highly desired. Knowledge of facility mechanical, electrical, and construction maintenance and repair facility work processes and methods is highly desired.
- c. Education (All levels). A high school diploma or equivalent is required.

3.3.12. Composite/Plastic Fabricator

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Fabricator I	2
Fabricator II	4
Fabricator III	5

- a. Experience (All levels). Experience shall include the repair, fabrication, modification, removal, and installation of composite and/or plastic items, parts, assemblies, and structures. Composite/plastic fabricating work requires knowledge of the physical properties and working characteristics of plastic, composite, and compound ingredients, with a working knowledge of metals, metal properties, and metal characteristics.
- b. Knowledge (All levels). Composite/plastic fabricating work requires knowledge of the physical properties and working characteristics of plastic, composite, and compound ingredients, with a working knowledge of metals, metal properties, and metal characteristics. At the Level II the Fabricator shall plan and accomplish repairs, interpret technical directions and drawings and determine work approaches. At the Level III the Fabricator shall have knowledge and skill

in the full range of manufacturing and fabrication techniques to create approaches to meet technical requirements, create prototypes, meet high tolerances, create fixtures and to ability to calculate loads, fits, sizes, weights and instructions to establish repair processes.

c. Education (All levels). A high school diploma is required. Associate degree is desired or vocational training is desired. Associate degree/vocational certificate in technical field is required for Level III.

3.3.13. Painter

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Painter I	2
Painter II	4

a. Experience (All levels). Experience shall include surface preparation, spraying, rolling, brushing, paint mixing/preparation, masking, personal protective equipment, etc. to ensure that the final finished surfaces meets requirement specifications. Painting will be primarily on metal and composite surfaces. At the Level II level, the painter shall have experience with determining the methods, techniques and materials needed to meet finished surface requirements.

b. Knowledge (All levels). Knowledge of surface preparation, paint preparation, personal protective equipment, paint application techniques, surface finishes, applicable environmental standards, and ability to understand and follow technical specifications.

c. Education (All levels). A high school diploma is required. Associate degree is desired or vocational training is desired.

3.3.14. Administrative/Secretarial Support

This labor category includes the following levels and associated required years of experience:

<u>Category/Level</u>	<u>Years of Experience</u>
Admin/Secretary I	2
Admin/Secretary II	3
Admin/Secretary III	4 (division level)

a. Experience (All levels). Skills should include maintenance of administrative and technical files, word processing, compose correspondence, prepare reports, maintain T&A records on a back-up basis, schedule meetings, etc. For level 3, experience at division level is required to include instructing/assisting secretaries

within the branches on procedural matters such as the correct procedures to follow in preparing correspondence, securing FAA ID badge, maintaining official records, scheduling conferences, etc.

b. Knowledge (All levels). Ability to use advanced word-processing and computerized spreadsheet applications are required. Additionally, ability to communicate effectively orally and in writing is required. Knowledge of FAA administrative policies and procedures is highly desired for levels 1-2 and required for level 3.

c. Education (All levels). A high school diploma is required. An associate degree in Secretarial Sciences is desired. Training in secretarial sciences, office administration, or related specialized training is required.

SECTION 4 - FACILITIES, SUPPLIES AND EQUIPMENT

4.1 FACILITIES:

4.1 .I Contractor Furnished Facilities:

The Contractor may be required to establish an Oklahoma City office to accomplish some of the requirements of this PWS. If established, this office shall be conveniently located near the MMAC. The facilities shall be consistent with the quality of office space normally utilized by Government agencies. If established, this will be accomplished by way of a supplemental agreement.

4.1.2 Government Furnished Facilities:

To the extent space is available; Contract personnel will be located at the MMAC. The following services will be provided when the Contractor is located at MMAC.

- a. Facilities. The Government shall provide working space and furnishings for contract personnel consistent with facilities provided to government employees in that work area. The Contractor shall share responsibility for physical security and safety, along with government personnel.
- b. Utilities. Contract employees will be provided the same utilities as those provided FAA employees while located at the MMAC. The Contractor shall use Government furnished utilities in a prudent manner.
- c. Telecommunications. The Government shall furnish telecommunication service to the work area for official use only.
- d. Janitorial Services. The Government shall provide the same janitorial service to the Contractor as provided for MMAC.

4.2 GENERAL SUPPLIES AND EQUIPMENT:

4.2.1 Contractor Provided Supplies and Equipment:

4.2.1.1. In the case of a Contractor Office **not** located at MMAC, the Contractor shall provide office supplies and materials required in an engineering design office. Items such as paper tape, printer paper, magnetic tape and diskettes, and related materials associated with deliverable software shall be furnished by the Contractor.

4.2.2 Government Provided Supplies and Equipment:

4.2.2.1. For contract personnel located at the MMAC, the Government shall provide basic supplies and materials normally available to Government employees. Some

supplies and materials may be purchased by the Contractor. The cost of these supplies and materials shall be reimbursed to the Contractor as a direct cost.

4.2.2.2 Certain assigned projects may require special supplies, tools, or equipment. The Government may choose to provide these items or authorize the Contractor to buy them.

4.2.2.3 Request by the Contractor for reimbursement of supplies and equipment, utilized in performance of this PWS, will be submitted through the standard voucher method.

4.2.2.4 The Contractor will be granted use of the FAALC Test Equipment Lab, Computer Room, and requisite Program Support Facilities to perform the technical support required under this PWS. Use of the FAALC support facilities and equipment must be coordinated with the requiring organization.

4.2.2.5 Contract personnel may utilize the FAALC Technical Documentation Center for access to technical reference materials.

4.3 GOVERNMENT FURNISHED EQUIPMENT (GFE):

4.3.1 It is the intent of FAALC to place all contract employees on site at MMAC or other government facilities, and no GFE will be required. In the event adequate on-site space is not available, some GFE may need to be provided to the contractor. The type and amount will be determined at that time. GFE property transactions between the contractor and the FAA will be recorded on FAA Form(s) 4650-12. The FAA will provide required forms. The contractor shall follow the procedures as provided by the FAA for tracking of GFE and Accountable Property records and reporting.

4.3.2 The contractor may be granted limited use of government vehicles, equipment, and machinery (to include government rented or leased vehicles, equipment, and machinery) in performing the normal assigned tasks or duties stated within the current Scope of Work and Performance Work Statements at the MMAC and while assigned at temporary duty locations abroad. It is in the best interest of the FAA to allow the contractor limited use of government vehicles and equipment to complete the assigned tasks in a more efficient and effective manner. The contractor will ensure that all said vehicles, equipment and machinery will be operated within all policies and guidelines to ensure safe and efficient operation.

SECTION 5 – REPORTING

5.1 ENGINEERING PROJECT LIST:

The Contractor shall establish and maintain a list of project assignments. Typically the list will include the project number, project title, project status, employee name, and project completion date for all projects assigned. This schedule shall be kept current. A hard copy or electronic copy will be made available to the CO/COTR upon request.

5.2. COST SUMMARY:

The Contractor shall provide a cost summary of expenditures on each contract employee per voucher period. Cost summary to include cost to date (labor cost, materials costs, and travel cost), and estimated cost to complete (labor, material, and travel) the contract year or FAALC budget year on a per employee basis. Cost summary to be provided in Microsoft Excel, or whatever spreadsheet software is in use by FAALC at the current reporting time. This report will be kept current and provided to the FAALC as requested.

5.3 TIME UTILIZATION REPORT (TUR):

FAALC government employees account for their labor hours expended for each assigned work project and leave hours when they complete their Time and Attendance entries at daily intervals. In order for FAALC to capture contractor employee hours expended on assigned projects, as directed, all contract employees are required to complete a Time Utilization Report (i.e. DCRS) on a daily basis.

5.4 ADHOC REPORTS:

Status reports are an integral function of the work effort outlined in the PWS. The contractor will be required to prepare and/or assist in the preparation of reports on an as needed basis. Typically the types of reports will include but not be limited to: trip reports, budget and acquisition, training, requests for assistance (ROA), staffing, configuration management, project status reports, white papers, fiscal property, documentation, briefing papers, etc.

5.5 PROGRESS REVIEW:

On an **as required basis**, contract employees and management may be called on to provide progress reviews on project activities. Typical progress reviews will be an oral presentation to the Group/Division Manager and COTR on a **quarterly basis**.

SECTION 6 – QUALITY

6.1 QUALITY CONTROL:

The Contractor is solely responsible for the quality products and services provided i.e. standards ISO-9000:2000. The Contractor shall establish and maintain a quality control program for the furnishing of supplies and services. This program shall include a controlled plan of events integrating all necessary procedures, controls, inspections, and tests required to substantiate quality of service and product as stated in FAA-STD-013d, Quality Control Program Requirements. Any additional quality control processes or procedures if required will be identified in requisite task, sub-task, or engineering project requirements.